C2425-3

A Publication of Communication Channels, Inc.

JULY 1989

# AMERICAN CITY & COUNTY

## Committed to Counties

**Dade's Harvey Ruvin: County Leader of the Year**

## High-Tech Ammo For Law Enforcement

## Computer and Software Annual Survey

# AMERICAN CITY & COUNTY®

July 1989 Vol. 104, No. 7


COLUMNS

10 **Financial Management** . . . Developments at the state level are changing ways to finance infrastructure improvements.

14 **Information Technology** . . . New software programs are helping police keep cities and counties safe.

16 **Inside Washington** . . . Using federal gas taxes to reduce the deficit is an ongoing topic.

COVER STORY

28 **Making a Difference: Commissioner Harvey Ruvin**
A long-time champion of local government and a master politician, Ruvin of Dade County, Fla., is the 1989 ***American City & County*** County Leader of the Year.

PROFILE

32 **Ann Klinger Wants Counties To Carry More Clout**
The new president of NACo wants to see county government assume a more visible role in Washington, D.C., during her tenure.

OFFICE AUTOMATION

36 **User Blues**
Megabytes, disk drives and microchips are not of much benefit to American city and county officials if no one knows how to use them, according to this exclusive survey. ☐ **40** FAX Network Ready for Emergencies ☐ **41** SCADA System Monitors, Processes Data

PUBLIC SAFETY

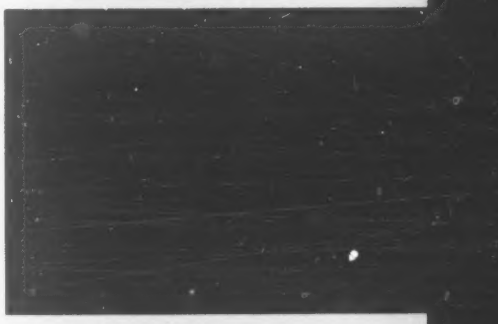
42 **High-Tech Alternatives For Public Safety**
Once found only on departmental wish lists, advanced computers and software are making it easier for American cities and counties to provide public safety. ☐ **46** Police Arrest Radio Problem ☐ **48** The Voice is Quicker than the Hand ☐ **50** Police Training Network Launched ☐ **52** A New Approach to Domestic Violence ☐ **54** Phone System Protects Elderly ☐ **55** DNA Testing Helps Solve Crimes ☐ **56** Texas Institutes Mapping in a Big Way

STREETS & HIGHWAYS

58 **Better Technology For Better Roads**
Producing smoother, more durable roads is the primary goal of a major highway research program. ☐ **60** City Manages Pavement ☐ **62** Six Bridges Cited in Contest ☐ **66** Innovative Design Measures Used ☐ **68** Product Focus: Streets


*Cover photography by Walter Marks, Metropolitan Dade County, Fla.*

**14 Software Police**



**42 Nabbing Suspects**

**58 Researching Roads**

DEPARTMENTS


4 Editor's View
6 Calendar
8 Readers' Forum
19 Resource Recovery
20 Across America
74 Newsmakers
76 Product Review
78 Buyer's Index
79 Services & Contracts
80 Professional Directory
85 Classified
88 Municipal Cost Indexes

# Policing, Technology Merge

High technology is revolutionizing operations in police departments around the country, *American City & County* Editorial Assistant Jennifer Carlile tells us this month in a section on public safety. Advances in the delivery of police services are staggering. Things that a few years ago would have seemed other worldly are becoming commonplace, such as computer-aided dispatch, DNA analysis to identify suspects, and computerized artistic renderings of the bad guys.

The high-tech law enforcement theme is further carried out in our Information Technology column, where new software systems that aid police work are discussed. Software for document management and record-keeping, coupled with computer-assisted retrieval is improving the efficiency of law enforcement. Technology also is easing life for police officers, putting criminals in greater peril, and giving citizens more of a secure feeling.

One of the most heartening things about the automation revolution is evidence that high technology in law enforcement has not edged out hands-on policing. Osage, Iowa, Police Chief Richard Mobley, whose story appears in the section, is using technology to provide a very personal service to the citizens of his small community. His "Are You OK?" voice processing system that daily checks on the welfare of elderly and shut-in Osage and Mitchell County residents is a highly commendable program.

In Hamilton, N.J., the police department on one hand is entering the computer age, and on the other is going back to the good old days. Police Lt. George Zimmer Jr. says the department is now reviewing hardware and software for a records management program and a computer-aided dispatch system the township wants to use by next fall. The system will have an enhanced 911 capability which may be put into operation statewide in 1990-91. Additionally, the department is looking into mobile data systems for its patrol cars.

But technological innovations aside, the program Hamilton Mayor John Rafferty most likes to talk about is the department's new old-timey foot patrol. Rafferty, an avid *American City & County* reader, wanted to share his township's experience with other public officials who might be interested in doing the same thing.

Resurrecting the walking beat cop in Hamilton cost "not one penny extra," yet has given citizens peace of mind and enhanced the quality of life, Rafferty says.

"Although we've been fortunate as far as crime rates go, Hamilton (population 87,300) is not without a criminal element," the mayor says. "And we continuously look for ways to eliminate that element from our township. We in government must act to deter the 'air' of lawlessness. We must create situations that are unattractive to would-be offenders. We must instill fear in the criminal, and confidence in the citizen. Our foot patrol does these things."

The walking patrol, which puts four pairs of officers on the streets each day, began a few months ago, and overjoyed citizens called the mayor and police chief to praise the program. A typical comment, according to Rafferty, was "My wife and I walked to buy ice cream last night, something we didn't feel safe doing before." Most people had not been victims of violent street crime before, but the fear was there "and the sight of two police officers walking in their neighborhood removed that fear," Rafferty says.

The response of rank and file officers to the program was "fantastic," the mayor says. Officers, who take one week of walking patrol every 10 weeks, said they were happy to be dealing with the public on a daily basis again, and that citizens stop to chat with them about things going on in the neighborhood, keeping them better informed.

Rafferty says the key to the program is proper placement of the foot patrols. They should be assigned to areas with high pedestrian traffic, in older neighborhoods where the police chief says "a walk to the corner store seems like a trip to the Western Front to some citizens," and in high-crime areas.

The program was so popular after a few months that foot patrol assignments were added in shopping centers, says Capt. Michael Maksymow.

"We know from the response from citizens this is what the people want," Maksymow says. "We're flooded with requests to 'put the program in our neighborhood.'" □

*—Janette Mitchell*


AMERICAN CITY & COUNTY

| | |
|---|---|
| JANETTE MITCHELL | Editor |
| TIM DARNELL | Managing Editor |
| DAN TREADAWAY | Associate Editor |
| JENNIFER CARLILE | Editorial Assistant |
| LINDA PARHAM | Washington Correspondent |
| MARTY GREENE | Production Director |
| PAT GREENE | Production Manager |
| BRIAN BUXTON | Art Director |
| MARIA BENNETT | Managing Circulation Director |
| KATHY WILSON | Circulation Manager |
| NANCY HICKS | Promotion Director |
| DIANE CARDEN | Promotion Manager |
| SHERI LANE | Classified Advertising |
| PETER WARD | Marketing Director |
| KAREN LETTERMAN | Associate-Publisher/ Sales Manager |
| GREGG HERRING | Vice President/ Executive Publisher |



EDITORIAL ADVISORY BOARD

| | |
|---|---|
| ARTHUR HOLLAND Mayor | Trenton, New Jersey |
| D. MICHAEL STEWART County Commissioner | Salt Lake City, Utah |
| CHESTER FUNNYE Commissioner, Public Works | Atlanta, Georgia |
| RONALD JENSEN Director, Public Works | Phoenix, Arizona |
| GERALD FOX County Manager | Mecklenburg County, North Carolina |
| ANN KLINGER County Supervisor | Merced County, California |
| TERRY GODDARD Mayor | Phoenix, Arizona |
| MEL POWELL Dean, Public Policy and Administration | California State University, Long Beach |
| PETER SFERRAZZA Mayor | Reno, Nevada |
| COSTIS TORREGAS President | Public Technology Inc. |
| PATRICK GLISSON Commissioner, Finance | Atlanta, Georgia |
| BUFORD WATSON City Manager | Lawrence, Kansas |



American City & County is published monthly by Communication Channels, Inc., Jerrold France, President; Lawrence Moorse, Executive Vice-President; Buford Bryant, Treasurer. Editorial and advertising offices at 6255 Barfield Road, Atlanta, GA 30328. Telephone 404-256-9800. American City & County is a registered trademark of Communication Channels, Inc.


© 1989 by Communication Channels, Inc., Atlanta, Ga.


Second-class postage paid at Atlanta, Ga., and at additional mailing offices. Subscription rates: U.S.A., 1 year, $48; 2 years, $73; Outside U.S.A. (Surface Mail) 1 year, $66, (Airmail) 1 year, $116; Single copies, $5. Municipal Index, $45.95 (Domestic) and $80.95 (Foreign). The opinions expressed by authors and contributors to American City & County are not necessarily those of the editors or publisher. Articles appearing in American City & County may not be reproduced in whole or in part without permission of the publisher. Microfilm copies of American City & County are available from Xerox University Microfilms, Ann Arbor, Mich., 48106. Postmaster: Please send form 3579 to Circulation Department, American City & County, 6255 Barfield Road, Atlanta, GA 30328.
ISSN 0149-337X

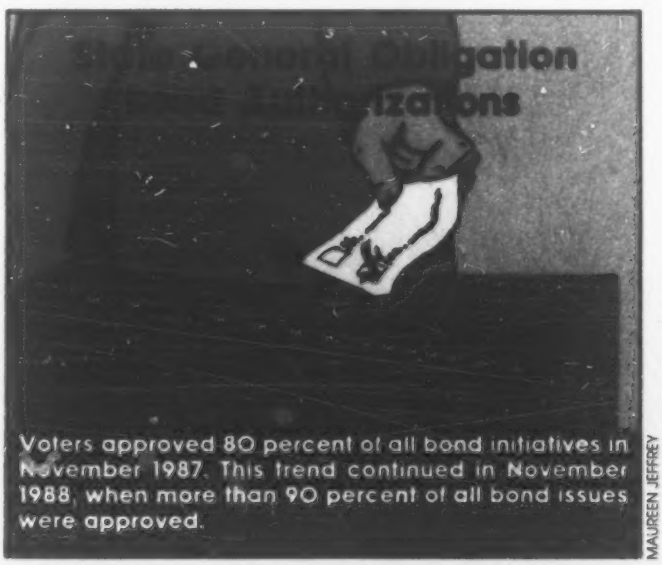
# Developments in Infrastructure Financing

*By Dennis Golem*

Over the past few years, awareness of the nation's infrastructure crisis has increased among state and local government officials as well as the general public. Reduced federal funding levels and limited, insufficient revenue sources have placed the burden of funding infrastructure improvements at the state or local level. Consequently, more states have been developing financing programs to deal with the enormous cost of infrastructure repair.

The main difficulty in financing the capital investment as well as infrastructure maintenance is that the various levels of government assume different responsibilities for each sector. Coordination and cooperation among levels of government will become increasingly important, particularly between states and localities as they strive to fill the federal funding gap.

States have been turning to both general obligation bonds and special tax- or user fee-supported revenue bonds as the financing base for their infrastructure programs. Two of the oldest and most comprehensive statewide infrastructure programs ("Build Illinois" and Connecticut's transportation infrastructure program) depend upon special tax-supported debt issuance. In Illinois, the state's sales tax is pledged to debt service, while in Connecticut, debt service is payable from the state's motor fuels tax and transportation-related revenue.



Voters approved 80 percent of all bond initiatives in November 1987. This trend continued in November 1988, when more than 90 percent of all bond issues were approved.

MAUREEN JEFFREY

Special tax-supported debt generally does not require electorate approval prior to issuance. However, states choosing to finance their infrastructure program with general obligation bonds typically must first gain voter support. Increasingly, there is evidence that the general public will support even multibillion dollar bond levies when a clear benefit to the quality of life is perceived. This perception particularly is vivid as the media are filled with stories about collapsing bridges, toxic landfills and deteriorating water quality.

This growing public awareness of infrastructure needs propelled state general obligation bonds authorizations. In November 1987, voters in Ohio approved $1.2 billion in general obligation bonds for infrastructure improvements. The Texas electorate passed $1.4 billion in state-supported debt for various purposes.

Overall, voters approved 80 percent of all bond initiatives nationwide in 1987, of which a large percentage are for infrastructure improvements. This trend continued in November 1988, when more than 90 percent of all bond issues received voter approval. During 1988, state general obligation bonds were approved in New York ($3 billion), California ($3.3 billion) and Michigan ($800 million), among others.

The restrictions imposed by the Tax Reform Act had a dramatic impact on the volume of municipal bond issues. Long-term municipal debt issues fell by 30 percent during 1987 from $151 billion in 1986 to $105 billion. A modest rebound to $117 billion occurred in 1988.

Even without general obligation issues, which may be constrained by statutory and constitutional limitations as well as voter rejection, states may finance infrastructure improvements through the increasingly popular lease/rental-supported mechanism. Lease/rental-supported borrowing in many states is not constitutionally considered debt. User fees or revenue-supported issues and special tax-supported debt (like those in Illinois and Connecticut) bypass most restrictions applicable to general obligation debt.

Ohio already has issued its first series of $120 million infrastructure improvement bonds to fund local improvement projects through grants. While this first bond issue was designated for grants, loans to municipalities will become a feature in the future. Specifically, by the end of the program's 10th year, 22 percent of the disemburse-ments must be as loans. This will permit leveraging through loan repayments and interest. Bondholder security rests with the general obligation credit of Ohio and is not linked directly to the grant program, which distributes funds on a population-based formula to state districts.

Ohio also is about to begin financing the state's share of seeding the revolving fund authorized by the 1987 Water Quality Act. The state's financing of its 20 percent share will be through the Ohio Water Development Authority, which itself was the prototype for the U.S. Environmental Protection Agency's state revolving fund concept. The establishment of Ohio's Water Pollution Control Revolving Loan Fund marks the shift of wastewater treatment funding from direct federal government grants to a system involving loan repayments. Ohio will make below-market loans to localities from the fund, with loan repayments securing the debt service on the Water Development Authority's bond issue.

Clearly, the financing options available to state and local governments are wide-ranging and most will rely on a combination of techniques. Tax-exempt bonding will continue as one technique that remains a vital component of an overall financing strategy. Despite the restrictions of the Tax Reform Act of 1986 and uncertainties surrounding the U.S. Supreme Court's April 1988 decision overturning the longstanding *Pollack vs. Farmers Loan & Trust Co.*, tax-exempt financing for the majority of public purpose infrastructure projects is expected to accelerate into the 1990s. □

*Dennis Golem is senior vice president of Prescott, Ball & Turben, Cleveland.*

mian Basin region of West Texas and Southeast New Mexico. The airport is accessed by Interstate 20, Highway 191 and Highway 1788; there is only one landowner whose property would have to be obtained to expand the facility, and no oil wells would have to be moved.

The task force says the airport's existing terminal can be expanded to more than 30 jetway-equipped airline gates. Also, airspace conflicts at the site are minimal.

Midland Mayor Carroll Thomas predicts thousands of permanent jobs would be created once the wayport is operational. "The wayport project could stimulate the economic recovery of the entire Permian Basin to such an extent that our traditional dependence on the oil and gas industry would be lessened greatly, and the local communities could better handle the highly cyclical swings in the price of oil," Thomas says.

Odessa Mayor Don Carter says, "The existing international airport makes much more sense than building a new airport in the middle of nowhere, as some have proposed. The number of available homes in the Midland/Odessa area numbers in the thousands. Construction workers, airline employees, and other wayport employees would find a community easily able to provide any type of housing they desire."

**Maricopa County, Ariz.:** Groundbreaking ceremonies have been held for the new $22 million Maricopa County Southeast Regional Public Service Fa-

## SURVEY SPOTLIGHT

**How would you prefer the federal government reduce the deficit?**

**BUY FACTORY DIRECT & SAVE!**

Classic Lamp Posts offers the highest quality, lowest cost lighting posts and luminaires for street lighting, parks and parking lots in America. These unique lamp posts are molded of a steel-reinforced outdoor polymer and urethane laminate that we call "Polysteel".

**Our polysteel posts:**

- **Never Need Painting**
- **Easy to Install**
- **Available in qty's of 1 to 1,000**
- **Our Objective: 4 week delivery**
- **Designed for municipal use**
- **Available in 8' to 15 ' heights**

FREE 12 PAGE COLOR CATALOG!

CALLTOLL FREE(800) 654-5852
IN FLORIDA (305) 696-1901

**Classic Lamp Posts, Inc.**
3645 N.W. 67 Street Miami, FL 33147

Circle No. 20 On Reader Service Card

AC&C Survey

# User Blues

## Megabytes, disk drives and microchips are not of much benefit to American city and county officials if no one knows how to use them, according to this exclusive survey.

*By Tim Darnell, Managing Editor*
*and Jennifer Carlile, Editorial Assistant*

Where cowboys once drove millions of longhorns and cattle through the Lone Star state now lies Coleman, Texas, with a population of about 6,000. Surrounded by tumbleweeds and cactus, the town is 200 miles from Dallas, Lubbock, San Antonio and Austin; the closest metro area is Abilene, a jaunt of more than an hour. High technology, however, knows no distances or boundaries.

For about 11 years the city has used computers for infrastructure planning and maintenance, including mainframes for budgeting, personnel and water applications. But with a tiny town comes a tiny budget. Even as the county seat, Coleman has no plans to buy a geographic information system, computer-aided dispatch or design system, citizens information system, or a scheduling system, and the 1990 computer budget will be about the same as this year.

But the biggest office automation headache Coleman officials have experienced is getting someone to teach them how to use the equipment they do have.

"Granted, we are a rural area, and a little more problematic than most," says city Secretary David Sooter. "But there are not many support people nearby. It's very expensive to send our people off to train and stay out of the office for two or three days. And it costs more than $200 for a vendor to come here and train us.

"You must have support capabilities. You will never get your system's full potential unless all your people are trained."

While some American cities and counties may not be as isolated as Coleman, teaching personnel how to use computers is a major concern among local government officials today. In an exclusive *American City & County* survey, more than 53 percent of local officials surveyed indicated that user training was the key issue facing their department or municipality. And several respondents echoed Sooter's concern.

"When you buy a software package, most companies do not provide a lot of backup and support, especially in rural America," says Douglas Terry, city manager for Standish, Mich. "We spent a lot of money on our utility package, about $15,000, while our payroll and general ledger package cost around $8,000. Sometimes the attitude among the computer companies is 'take the money and run.'"

The annual computer equipment survey was conducted by *American City & County's* Research Division. The sample for the survey was taken from the magazine's primary circulation list; 238 responses were received with a margin for error of 6.5 percent at the 95 percent confidence level.

When designing or installing a computer system, 53 percent used a private consultant, while 44.3 percent did not. Many large cities such as San Diego have established special committees to review proposals and requests for new computers. And while most companies offer instruction on how to use the equipment, properly trained personnel remains an issue.

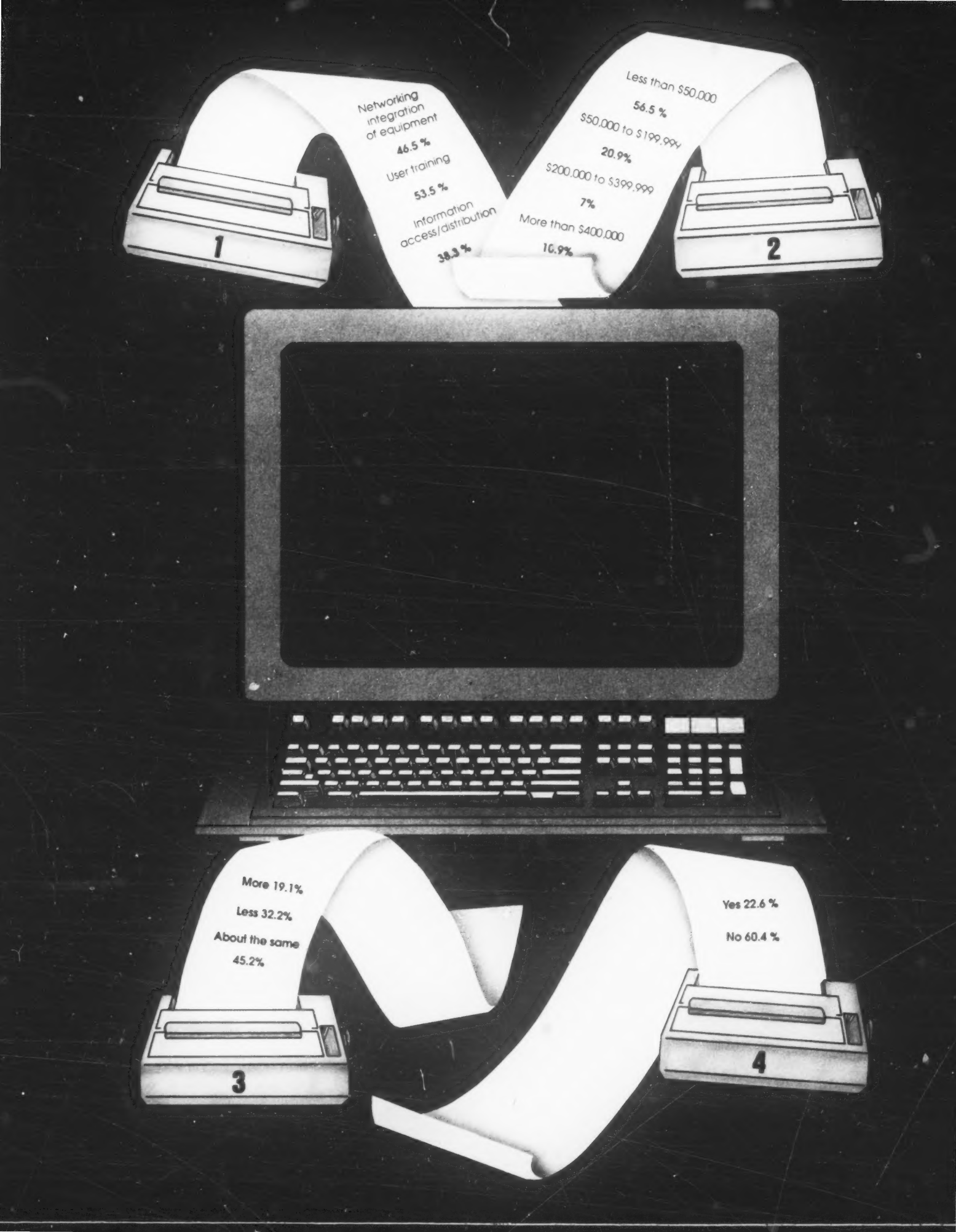
"We have never been in a position where we could afford a consultant," says Curtis Holt, assistant city manager for Cedar Springs, Mich. "There are all sorts of software programs that can run on IBMs; I use MicroSoft, but there are no training programs available."

Part of the problem, especially in smaller communities, is that the personnel running the computers are unfamiliar with a technology-oriented environment. "It is hard for people who know how to run (computers) to understand that people like me did not grow up on computers," says Myron Anderson of the Washinaw County, Mich., Road Commission.

Port Clinton, Ohio's, fiscal manager Jerry Witt agrees. "We have quite a few older women in our department who have not been subjected to computer technology as younger people have. As a result, training has been a big problem for us. The attitude is, 'Well, now that we have this thing, what do we do with it?'"

"Eight companies received requests for proposals when we decided to purchase a system for our police department," says D.A. Smith, town manager

ILLUSTRATIONS AND CHARTS BY PATTI VOSS


1
Networking integration of equipment
46.5 %
User training
53.5 %
Information access/distribution
38.3 %
2
Less than $50,000
56.5 %
$50,000 to $199,999
20.9%
$200,000 to $399,999
7%
More than $400,000
16.9%
3
More 19.1%
Less 32.2%
About the same
45.2%
4
Yes 22.6 %
No 60.4 %

for Warrenton, Va. "The users will operate the equipment 24 hours a day, and training requirements are a must."

Instead of using consultants, some communities are relying on local talent. Joseph Rampala, administrator for Hillsdale, N.J., uses personnel from Bergen County Community College. "We enroll a number of our people in several courses there, enough to justify our participation. We do all of our programming in-house, because of our small size."

Washinaw County has developed its own in-house system, and Standish's $15,000 utility package was custom-made. San Bernardino County, Calif., created its own computerized data bank of test questions used to select county personnel.

"The problems with developing in-house software are that there are no support programs to go with them," says Nadine Lomakin of Information Associates, a supplier of financial and administrative software.

Obtaining instructions for in-house systems may be difficult, but some computer and software companies do offer instructions on their equipment. While some training sessions are held in one location, such as the Pitney Bowes operating seminar this year in Peachtree City, Ga., others such as Diagonal Data feature on-site training, group instructional classes and national user seminars. Management Science America has an on-line support service which allows customers to access current service requests for any company product, bulletins such as tax and regulatory updates, and source codes for any other product.

*In addition to training, survey respondents said networking and integrating equipment and access and distribution are other areas of concern.*

IBM, which provides hardware for almost 66 percent of cities and counties surveyed, charges the client for instruction depending on the circumstances. "In small to mid-size situations, if we teach them a marketable skill, like programming, we usually charge a fee," says Karen Zinsmeister, an IBM marketing manager. "If it's simply user training, we provide it for free."

But smaller communities mostly are on their own. "When they look at our label, the client may wonder why we didn't provide any free training," Zinsmeister says. "Usually, it's because they did not buy the package directly from us, but through a dealer. In situations where attending training classes is not feasible, I tell them to buy an on-line instruction package."

Some vendors have regional training centers across the country. Hewlett-Packard has about 13 in the United States and five in Canada and Mexico, plus several overseas. It also co-sponsors, with Public Technology Inc., two or three workshops a year in different cities. Digital features 50 different training courses at eight different training sites.

In addition to user training, survey respondents indicated that networking and integrating equipment (46.5 percent) and information access and distribution (38.3 percent) are other areas of concern. "No one has enough time and money to maintain a good user information network," says Chris Meyer, assistant city manager for Fullerton, Calif.


GET EVERYTHING FOR THE OUTDOORS FROM ONE SOURCE.

**REI offers groups a discount.**
Organizations get a special commercial discount on every group purchase from REI. For more than 50 years, REI has been a national supplier of quality outdoor gear and clothing. We have a large, competitively priced selection. And our 100% guarantee ensures your complete satisfaction.

**Send for a free REI catalog and find out more about your group discount.**

Name _____
Title _____
Organization _____
Address _____
City _____
State _____ ZIP _____

**Mail to:** REI Commercial Department, Room 309, P.O. Box 88125, Seattle, WA 98138-0125. Or call (206) 395-7104 or 395-7105; ask for operator #309.

REI®
Quality Outdoor Gear and Clothing Since 1938

Circle No. 27 On Reader Service Card

TO CONTROL YOUR FLEET

PUT AN IBM-PC TO WORK FOR YOU

The combination of an IBM compatible personal computer and Fleet Computing's software provides a proven state-of-the-art tool for automated fleet cost control. The Fleet Controller™ is specially tailored to the needs of the small to medium size city, county, school district, utility, or other government organizations. It provides: • monthly departmental cost summaries • comprehensive vehicle inventories • advanced preventive maintenance scheduling • fuel consumption reports with fleet-wide exception capability • categorized, detailed, repair history from your shop or from outside garages • mechanic time summaries • outside garage purchasing summaries, and much more.

Fleet set-up is easy and menu-driven. Vehicle repairs are entered from your existing shop repair orders and garage invoices. Fuel and mileage are entered from fuel logs, gas tickets, or from an automated interface with selected card control systems. A parts room inventory control system and custom report maker are optional. Fleet Controller™ is versatile and efficient in capturing your cost transactions and providing useful management feed back. What are you waiting for? Contact us today.

FCI FLEET COMPUTING INTERNATIONAL INC.

P.O. BOX 14698, ALBQ., NEW MEXICO 87191 • 505-275-0626
(formerly Minnetonka, MN 55345)

IBM is a trademark of IBM Corp. Fleet Controller is a trademark of Fleet Computing International Inc.

Circle No. 28 On Reader Service Card

"We spent a few million on the mainframe this year," says Sharon Wilkinson, administrative analyst in San Diego, "and now the issue is spending money wisely for system development. There is lots of duplication — different departments develop different programs to do the same thing, but no one else can use them."

Accessing information has been a problem for Lyons, Kan., City Administrator Mike Hauptman. "Our water and gas department is about three-quarters of a mile away," he says, "and sometimes we have had a problem communicating. We are not connected by a computer."

Except where the vendor provides free installation and instruction after the sale, training costs money, which opens up a whole new set of issues. Like Coleman's, most budgets for computer and office automation purchases either will remain the same in 1990 (45.2 percent) or will be less (32.3 percent) than this year. While most respondents (56.5 percent) will spend less than $50,000 on new computers and office machines this year, more cities than counties will spend less than that amount. Counties seem to have larger automation budgets than cities; of the 10.9 percent that will spend more than $400,000 on automation in 1989, 56 percent are counties.

*"We spent a few million on the mainframe this year, and now the issue is spending money wisely. There is lots of duplication."*

Some communities naturally are feeling the ever-present budget crunch, but others just are not experiencing the urge to automate the way they used to.

More than 50 percent of survey respondents have no graphics capabilities, nor plan to acquire any. Exactly 63 percent have no geographic information systems, while another 63 percent have no computer-aided drafting and design systems. Almost 85 percent have no citizens information system, 76 percent have no wastewater systems control program, and 80 percent have no automated water systems control operation.

"We've bought most of the equipment we'll need for the next five years," says Montgomery County, N.C., Manager Gary McCaskill. He will spend less than $50,000 on automation in 1989 because the county already is up to speed using mainframes for budgeting, personnel, payroll, solid waste and water planning. Tybee Island, Ga., did some major purchasing last year. San Diego, even with a massive budget, will spend less on computers this year.

"Our budget will be less this year because we don't have as many areas that need to be upgraded," says Lonnie Roberts, Jeff Davis County, Ga., administrator. Garland, Texas, bought a mainframe several years ago, and now spends money mainly to replace and repair the personal computers. "Most of our capital expenditures are for PCs and minicomputers," says Assistant City Manager Virgil Miller. While the city plans to spend more than $400,000 this year on automation, most of that money is appropriated to buying telecommunications software to go with the Northern Telecom system it bought a year ago.

Among those communities planning to spend more on automation, several have large-scale plans in the works. Fullerton has a five-year capital improvement program, and a seven-year

The people's choice in local government.

Our computer systems hold over 700 public offices. From California to Vermont, in cities with populations of more than 7 million to villages with less than 300. Helping from Administration to Zoning, and everything in between. Find out how Unisys can help you: 1-800-547-8362.

UNISYS AND YOU.
The power of²

UNISYS

Circle No. 29 On Reader Service Card

BEST AVAILABLE COPY

automation/data processing plan. With an operating budget of about $750,000, it plans to set up a local area network and a geographic information system.

Despite these long-range plans, Meyer only expects to get five years of service out of any mainframe. "Anything else is free time," he says, "and the manufacturers and vendors use support fees to force you to buy new mainframes."

For cities and counties spending more on computers, where does the money come from? General tax revenues from Danville, Va., residents will help finance a new five-year plan now that the old one has run out. "There is a realization in our organization that we would have to hire more people if we didn't buy this equipment," says City Manager Charles Church.

"But while our council is supportive of this program, because they see where it is going, no one is knocking down our door and begging us to spend more money on computers."

Local economies also determine whether a city or county will have enough funds to buy new machinery. "We have had hard economic times down here," says James Ellum, city manager for Edna, Texas. Money in Flint, Mich., is tight because the automobile industry is sliding downhill, according to City Administrator C.W. Samuel.

Financial and budgeting applications are the more popular uses for micro and minicomputers and laptops. Microcomputers also are widely used (40.4 percent) in police and fire services, while mainframes and minis are more popular for personnel and payroll applications (52.2 percent and 28.3 percent).

But there are many indications that the market will remain active and strong. Total annual expenditures for information technology products in federal, state and local agencies, currently reaching about $30 million, could exceed the $1 billion mark by 2000, according to Atlanta-based INFORUM, which specializes in information technology and distribution.

"If you look at current spending levels and the projected spending growth rate in the federal, state, local and educational markets, it's easy to conclude that the next 10 years are going to offer a tremendous opportunity for technology vendors and quite a challenge for government purchasing agents," says Doug Brooks, chairman of the Government Technology Conference and Exhibition. The event will be held Oct. 3-4 in Atlanta and is sponsored by INFORUM.

# FAX Network Ready for Emergencies

Several years ago, the Nuclear Regulatory Commission established timely notification standards requiring nuclear facilities to alert government agencies within 15 minutes of any declared emergency at a power plant. This ruling provided the impetus for Sacramento Municipal Utilities District (SMUD) to revamp its existing warning system, something the utility had been considering for some time.

"We always felt our system was too slow and vulnerable," says Tom Santiago, SMUD's senior telecommunications specialist. "With the ruling, there was no way to communicate with the number of people we had to contact during an emergency within a 15-minute timeframe."

In operation for 30 years, SMUD started out as a hydropower facility before moving into geothermal, photo voltaic and nuclear power. It covers a radius of 30 miles and serves more than 1 million customers.

In the event of any kind of emergency, there are about 17 government agencies in outlying areas that must be apprised of the situation, but there are seven that must be notified immediately and fall into the 15-minute ruling. These agencies are located in three counties and in the state capitol in Sacramento.

Alerting the agencies involves two steps. The first simply is a telephone call. But this must be followed by hard-copy documentation detailing the nature of the emergency and its status. But this second step posed a problem — it could not be executed within 15 minutes using the utility's existing system.

Prior to the ruling, SMUD employed a manual relay system using Group I and Group II facsimile machines to transmit information. The system simply involved one machine talking to another machine sequentially, until all the machines had talked to each other. The process was time-consuming; in some cases, it took as long as 30 minutes. Another drawback was that if one machine malfunctioned, the entire network failed.

With this in mind, SMUD asked for presentations from some leading facsimile manufacturers. After extensive evaluation, SMUD selected NEC as its vendor. The new system would link a facsimile terminal to a fax switch that would multiply each transmission line four times, resulting in the creation of multiple lines for broadcasting simultaneously. This provided the much-needed simultaneous transmission to the seven required locations in under 15 minutes, and provided an eighth line for a fax the utility would position at one of the seven locations for its own use. It would serve to communicate back to the power plant to confirm receipt of the transmission.

Should there be an emergency, SMUD's warning system works like this: the operator in the power plant control room, after evaluating the situation, sends a signal to the emergency operations center. Without operator assistance, automatic transmissions of documents are forwarded simultaneously over dedicated phone lines at the eight remote locations.

If, within five minutes the power plant's control room has not received confirmation that the first message was transmitted, the technician flips a rocker switch sending a second signal to the plant's technical support center just down the hall. This data is transmitted to the same eight locations.

"This is strictly a dedicated system, whose purpose is to be on standby for any kind of emergency," Santiago says. In addition, the utility is investigating sending transmissions over a microwave network, which is more secure and not as easily disrupted during a regional emergency. "This way, the system will have even greater reliability," Santiago says. □

Details about an emergency can be transmitted in less than 15 minutes through the fax network.

Donald Marchand, dean of the school of information systems at Syracuse University, has been involved in an 18-month study of state government spending on technology commissioned by the National Association of State Information Systems. After completing this study, Marchand is planning another for the National Association of Counties to determine the amount of technology purchased by that segment of the local government market.

Government technology "is a huge market and the potential is enormous," Marchand says. "It is a market that a lot of people are just discovering is worth investing in."

But perhaps the most significant awareness occurring in local government today is that, no matter how sophisticated the technology is, people are the most important component, which may explain why many American city and county officials are concerned about a properly trained and motivated workforce.

"Automation is just a tool; the key is the individual," says Rampala. "We have a growing awareness of the proper role of automation in the workforce. The emphasis is not so much on the automation and software, but on the worker. The individual's personal and professional development is still the centerpiece." □

## SCADA System Monitors, Processes Data

A computer and radio transmission system enabling personnel to receive and process information faster is being installed by the Southwest Florida Water Management District.

The two-way system will allow for the control of remote equipment from a central location. The district awarded a contract to Sierra-Misco, Berkeley, Calif., to install the supervisory control and data acquisition system (SCADA).

A pilot program will feature selected sites for a trial system. The initial program should be completed by the end of summer, while the entire project should be completed within five years. The SCADA network will consist of about 150 data collection terminals transmitting information over long distances.

Selected information automatically is collected on the status of rivers, lakes, monitor wells, weather system and water control structures. Each site will have monitor equipment and a transmitter to report information back to a central computer.

District employees in the field will be able to use a portable computer and telephone to monitor the communication system. Information will be available immediately to allow the district to make faster, more effective decisions.

Daily collection of important information will help in forecasts of water conditions such as shortages and flooding. The SCADA system is designed for future expansion to meet the district's needs.

The company's Wide Area Network Data Acquisition software, which enables computers to exchange information over long distances, will be incorporated into the system that, when finished, will extend across 16 counties in west central Florida. The telemetry will monitor and manage surface and subsurface water in an area extending north to Levy and Marion counties, south to Charlotte County and inland from the Gulf of Mexico to Polk, Highlands and Sumter counties.

The region is inhabited by 3.3 million people, with thousands moving into the area every year. □

The people's choice in public safety.

Seven of the ten most populous states and over 250 local governments use Unisys systems to protect their citizens. From Computer Aided Dispatch and Records Management, to accessing state and national police networks, Unisys systems speed information to save lives and manage costs. Find out how Unisys can help you: 1-800-547-8362.

UNISYS AND YOU.
The power of ²

UNISYS

Circle No. 30 On Reader Service Card

BEST AVAILABLE COPY

The **Municipal Cost Index** continued its steady rise, this month rising 0.4 percent to 118.4. The **Construction Cost Index** experienced the smallest gain, 0.1 percent to 119.0. Both the **Consumer Price Index** and the **Producer Price Index** rose 0.7 percent, to 123.1 and 112.3 respectively.

Portland cement rose 0.9 percent from last month, while asphalt rose 1.7 percent to 95.5. Concrete products increased to 110.8. Office machines fell 0.7 this month, and electronic components fell 0.2 percent to 119.3.

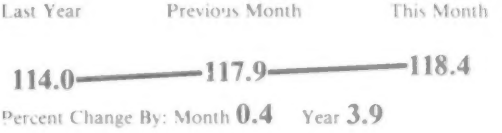
*—Compiled by Tim Darnell*

## MOST RECENT MARKETBASKET

| | Current Index | Percent Change From: Most Recent Month | Last Year |
|---|---|---|---|
| Air Conditioners | 117.4 | 0.2 | 4.4 |
| Apparel | 113.5 | 0.4 | 3.4 |
| Asphalt Roofing | 95.5 | 1.7 | 3.0 |
| Ball Bearings | 125.7 | 0.2 | 13.2 |
| Coal | 94.2 | 0.5 | −1.4 |
| Communication Devices | 104.3 | 0.5 | 1.9 |
| Concrete Products | 110.8 | 0.2 | 1.0 |
| Construction Machinery | 116.0 | 0.3 | 4.4 |
| Diesel Fuel | 62.9 | 9.0 | 17.6 |
| Electric Components | 119.3 | −0.2 | 2.6 |
| Electric Power | 111.3 | 0.4 | 3.4 |
| Floor Coverings | 116.0 | 0.1 | 2.1 |
| Fuel Oil No. 2 | 60.0 | 4.7 | 12.8 |
| Foundry Products | 114.0 | 0.4 | 4.8 |
| Furniture | 127.6 | 0.2 | 3.3 |
| Gasoline | 70.6 | 19.5 | 24.3 |
| Generator Sets | 128.8 | −0.2 | 7.0 |
| Glass | 110.0 | 0 | 0.8 |
| Glass Containers | 116.3 | 2.1 | 3.7 |
| Gypsum Products | 108.7 | −1.4 | −2.7 |
| Hardware | 119.2 | 0.1 | 5.7 |
| Heating Equipment | 124.8 | 1.0 | 5.3 |
| Industrial Chemicals | 117.8 | 0.8 | 14.0 |
| I.C. Engines | 113.2 | 0.4 | 2.2 |
| Iron | 82.8 | 0 | 0 |
| LP Gas | 52.8 | 1.7 | −2.4 |
| Lumber | 128.2 | 0.5 | −4.0 |
| Metal Fabrications | 119.8 | 0.5 | 6.1 |
| Mixed Fertilizers | 108.8 | −0.3 | 3.5 |
| Motor Vehicle Parts | 108.9 | 0.4 | 2.0 |
| Natural Gas | 81.6 | 1.0 | 1.1 |
| Office Machines | 127.6 | 0.2 | 3.3 |
| Paint | 130.5 | 0.5 | 16.5 |
| Paper | 131.3 | 0.5 | 8.4 |
| Passenger Cars | 113.2 | −2.2 | 1.7 |
| Petroleum | 58.6 | 9.3 | 19.3 |
| Plastics | 141.3 | 0.4 | 10.7 |
| Plumbing Fixtures | 136.7 | 0.7 | 6.9 |
| Plywood | 111.3 | −0.2 | 9.0 |
| Portland Cement | 102.6 | 0.9 | −0.6 |
| Pumps | 114.2 | 0.5 | 5.8 |
| Residual Fuel | 47.3 | 8.7 | 16.8 |
| Rubber | 109.1 | −0.1 | 2.2 |
| Sand, Gravel | 122.6 | 0.5 | 1.4 |
| Sanitary Papers | 122.5 | 0.2 | 7.4 |
| Soaps, Detergents | 120.2 | 0.4 | 7.5 |
| Sporting Goods | 109.1 | 0.1 | 3.6 |
| Steel Mill Products | 115.2 | 0.3 | 4.9 |
| Switchgear | 118.3 | 0 | 5.0 |
| Synthetic Fibers | 104.0 | 2.7 | 8.0 |
| Tires, Tubes | 97.1 | −0.1 | 3.6 |
| Tools, Dies | 112.9 | 0.2 | 2.5 |
| Transformers | 115.3 | 0.3 | 6.5 |
| Transmissions | 120.2 | −0.1 | 4.4 |
| Trucks | 117.3 | 1.4 | 5.7 |
| Valves | 119.6 | 0.2 | 6.6 |
| Wire, Cable | 147.3 | −0.3 | 19.3 |
| Wiring Devices | 129.1 | 0.7 | 4.8 |

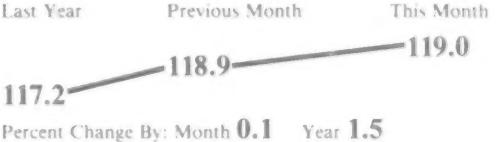
## At-A-Glance Changes

### MUNICIPAL COST INDEX



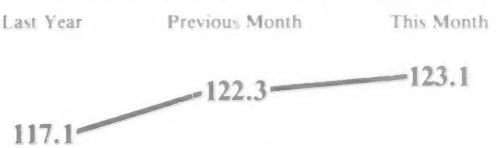

Percent Change By: Month 0.4 Year 3.9

### CONSTRUCTION COST INDEX




Percent Change By: Month 0.1 Year 1.5

### CONSUMER PRICE INDEX (BLS)




Percent Change By: Month 0.7 Year 5.1

### PRODUCER PRICE INDEX (BLS)

Percent Change By: Month 0.7 Year 6.1

**These figures are calculated on a base year of 1982.**

## QUARTERLY MUNICIPAL TRENDS

| | Current Level | Percent Change From: Last Qtr. | Last Year |
|---|---|---|---|
| Receipts | 708.0 | 1.4 | 7.7 |
| Federal Grants | 111.5 | 1.2 | 7.7 |
| Durable Purchases | 30.0 | 0 | 7.9 |
| Consumables | 48.1 | 0.2 | 7.8 |
| Services | 444.6 | 0 | 27.9 |
| Structures | 66.4 | 0 | 8.1 |
| Salaries, Wages | 347.8 | 0 | 6.8 |
| Surplus | 56.2 | 0 | −35.8 |
| Employment | 14.570M | 0.2 | 2.0 |